

four, had received some years ago a blow upon the head; there was a distinct scar on the left side of the skull on the border between the parietal and occipital bones. The patient exhibited symptoms of dementia when he came under observation. He was seized suddenly with circus-movements; he would always turn from right to left on being lifted out of bed and whenever he attempted any movement. In the sitting position the trunk and head would be turned several times in the direction which the circus-movements always took; in the recumbent position these movements would not occur. He died of pleurisy a few months after these symptoms set in. The autopsy revealed local encephalitis of the parietal region, and an otherwise normal cortex, with the exception of a slight atrophy of the frontal convolution. This area of disease corresponded closely enough to the region which for physiological and anatomical reasons had been held responsible for these forced movements.

B. S.

Recherches Expérimentales sur le Tremblement dépendant de l'Ecorce grise des Hémisphères du Cerveau.
By J. GASTERNAZVY. *Progrès Médical*, 536, 1885.

In a former article published in 1881 G. showed that a lesion of a certain part of the antero-lateral columns of the spinal cord could produce a tremor analogous to that observed in disseminated sclerosis. In the present article he studies another kind of tremor, which cannot be produced by the above lesion,—a tremor dependent upon a lesion of certain parts of the brain. His experiments consisted in carefully applying a faradic current to the psychomotor zone of a dog. The conclusions arrived at were, that chloroform reduces the excitability of the cortex of the cerebral hemispheres and that then excitation of the psychomotor centres produces a tremor analogous to that observed in progressive paralysis of the insane. Various clinical features of this affection are then cited for the purpose of showing the similarity of the two tremors.

G. W. JACOBY.

PATHOLOGY OF NERVOUS SYSTEM.

On a Peculiar Group of Symptoms Associated with Disease of the Posterior Columns of the Spinal Cord.
By Prof. C. WESTPHAL. *Archiv. für Psychiatrie*, vol. xvi., pp. 498, 778, 1885.

The above case of Prof. Westphal is remarkable not only for the interest inherent in the case itself, but for the masterly analysis of all the symptoms. While some of the symptoms resembled those of multiple sclerosis, there were others which excluded the affection from any of the established forms of spinal-cord diseases. We cannot do better than to give the author's summary of the clinical and pathological aspects of the case.

The patient, a man æt. forty-seven, without any syphilitic or

alcoholic taint, was under observation from November 24, 1881, to Feb. 26, 1884, when he died of pneumonia complicating tuberculous disease of the lungs. The disease set in with paresis of one ocular muscle (the left rectus int.) followed somewhat later by ptosis and some general cerebral symptoms (vertigo). Other symptoms were: A gradually increasing weakness of the lower extremities, which terminated in complete paralysis, and a slight weakness of the upper extremities; muscular rigidity affecting certain groups of muscles in the lower extremities; exaggerated knee-jerks and paradoxical contraction; this last phenomenon being observed at first only after dorsal flexion of the foot, and later on after plantar flexion and movements of the knee and hip-joints. In the upper extremities also there was a gradual increase of motor paralysis, certain movements of the fingers were entirely impossible, and there was moderate rigidity attending some movements as well as paradoxical contractions. The muscles of the jaws were similarly affected (at a later stage), the facial muscles were not distinctly paralyzed, but the movements of the tongue which deviated to the right were seriously interfered with. There was marked anæsthesia extending by degrees over the entire body, and finally including the trigeminal region. Cutaneous reflexes were preserved; with the exception of vertigo, fear, and slight insomnia there were no cerebral symptoms of any special import. Toward the latter stages of the disease, some mental impairment was noticeable. Lancinating pains are mentioned in the earlier history of the case.

The autopsy proved a great surprise. The seat of the trouble was found to have been mainly in the posterior columns of the spinal cord. In the upper portion of the cervical cord the disease was limited to the inner portions of the columns of Goll and to the boundary between these and the columns of Burdach. Lower down in the cord the area of degeneration approaches to the posterior roots, without, however, quitting the columns of Goll. In the upper dorsal region this area is greatest; in the middle dorsal region the area of degeneration is narrowed down very much, and is limited to the immediate vicinity of the posterior fissure; a new strip of degeneration is formed in the lower dorsal region. We need not report all the minute changes; it will suffice to refer to this one additional fact that on the boundary line between the dorsal and lumbar segments there was no degeneration in the vicinity of the posterior root zones. In addition to this affection of the posterior columns, there is but a very slight diseased area in the antero-lateral columns of the cervical cord. A number of peripheral nerves (sciatic, crural, tibial, etc.) exhibited varying degrees of atrophy of the nerve-fibres without marked thickening of the interstitial connective tissue. Westphal believes also that he found distinct atrophy of a number of nerve-fibres of the posterior roots of the lumbar segment. Nothing new was gained from an examination of the muscles.—We may close this report with a reference to some points in differential diag-

nosis and to the manner in which the author now accounts for the various symptoms. The rapid spreading of anæsthesia from the extremities over the entire body, and involving even the upper extremities, is peculiar to this affection and not to tabes. The knee-jerks were not absent in this case, because the degeneration did not extend into the lower dorsal and upper lumbar segments, and did not affect the posterior root zones. Westphal finds it easy to explain the absence of ataxia, for as he has observed in many cases of dementia paralytica complicated with sclerosis of the posterior columns, a slight amount of degeneration is not sufficient to produce marked ataxia. The changes in peripheral nerves are held responsible for the sensory and motor disturbances. No attempt is made to account for the paradoxical contraction, or to answer the query whether there was any relation between the tubercular diathesis and this affection of the central and peripheral nervous system.

A Case of Locomotor Ataxy, without Disease of the Posterior Columns of the Spinal Cord. By A. HUGHES BENNETT, M.D. (Reprint from vol. xviii. of the Clinical Society's Transactions).

This case, reported by Bennett, is in curious contrast to the one of Westphal, reviewed above. The patient was a gamekeeper, æt. forty-eight, who had always been healthy, free from syphilis or other disorder. Fifteen years ago severe pains in the legs, continuing for three months, from which he completely recovered. Nine months before he came under observation he experienced gradual weakness of the legs, so that he was easily fatigued and unable to do a full day's work. Some months afterwards, severe shooting pains in lower extremities; these were paroxysmal, and shifted from place to place. No headaches or other cerebral symptoms, except giddiness. Vision good; no paralysis of ocular muscles, and fundi of both eyes were normal. Voluntary movements of eyeballs were accompanied with slight nystagmus; left pupil somewhat smaller than right; both pupils reacted well; functions of bladder, rectum, and sexual organs were intact. The patient walked with a slow, unsteady, hesitating, and markedly ataxic gait. Romberg's symptom very pronounced. Knee-jerk on both sides absent; plantar reflexes diminished. Sensibility to touch and pain everywhere normal. Dull aching pains in back and lower limbs, with shifting lancinating pains; muscles spare throughout body, but not atrophied. Weakness of legs and insecurity of gait increased, so that patient could not stand. For many weeks there were attacks of uncontrollable vomiting. He was under observation for two and a half months. During the last week patient became semi-comatose, and died after a severe convulsive attack.

At the autopsy, there was found in the substance of each frontal lobe, involving the anterior cornua of the lateral ventricle, a cir-